

# Mgnum<sup>TM</sup>BVF

**INJECTABLE AND MOLDABLE****FULL KITS FOR MIXING + APPLICATION**

## HIGH STRENGTH. LIGHTWEIGHT. RESORBABLE.

MgNum<sup>TM</sup> Bone Void Filler (BVF) is a moldable/injectable magnesium-based bone void filler that has a unique resorption profile that provides stability while also increasing cell proliferation, advancement of mineralization with a result of enhanced bone regeneration for multiple types of orthopedic applications.<sup>1-8,13-15</sup>

MgNum<sup>TM</sup> BVF is made from a pre-measured blend of magnesium, phosphates and a pre-measured proprietary solution. When mixed and molded/injected according to the instructions for use, the product will harden in situ at the defect site.<sup>12</sup>

- 80% resorbable in 26 weeks<sup>9</sup>
- Remodels to normal bone<sup>10,11</sup>
- Quicker time to union compared to calcium-based BVFs<sup>9,12</sup>



### KIT COMPONENTS

1	LIQUID & POWDER SET
2	MIXING SYRINGE
3	FUNNEL
4	BASIN
5	SPATULA
6	11 GAUGE CANNULA

## FEATURES AND BENEFITS

- **INJECTABLE & MOLDABLE**

Designed with optimized consistency for use in multiple orthopaedic applications<sup>13,15</sup>

- **ENHANCED BONE REGENERATION**

Greater than 80% bone remodeling in 26 weeks<sup>9</sup>

- **FULLY SYNTHETIC MATERIAL**

Enhanced quality control and increased product availability with reduced product morbidity compared to human tissue

- **RADIOPAQUE**

Product easily identifiable in situ

- **OSTEO-CONDUCTIVE/HIGH COMPRESSIVE STRENGTH**

Surface topography to support bone formation enhances structural stability and biocompatibility<sup>12,14</sup>

- **TEMPERATURE SETTING CONTROL**

Designed for optimal workability and curing time

- **THIXOTROPIC PROPERTIES**

Easily manageable curing time designed to allow for intra-operative flexibility and reduction of waste<sup>13</sup>

- **EXCELLENT BINDING CHARACTERISTICS**

Optimal product stability and fixation at operative site<sup>9,12</sup>

Claims based on critically sized rabbit lateral condyle defect model, rabbit anterior cruciate ligament reconstruction, equine metacarpal and metatarsal fracture fixation, and equine metatarsal osteotomy. It is unknown how results from the rabbit or equine models compare with clinical results in humans.

### CASE STUDY – 2 weeks, 6 weeks, 3 months and 6 months Tibia Plateau Fracture, treated with 10cc MgNum™ BVF



2 Weeks



6 Weeks



3 Months



6 Months

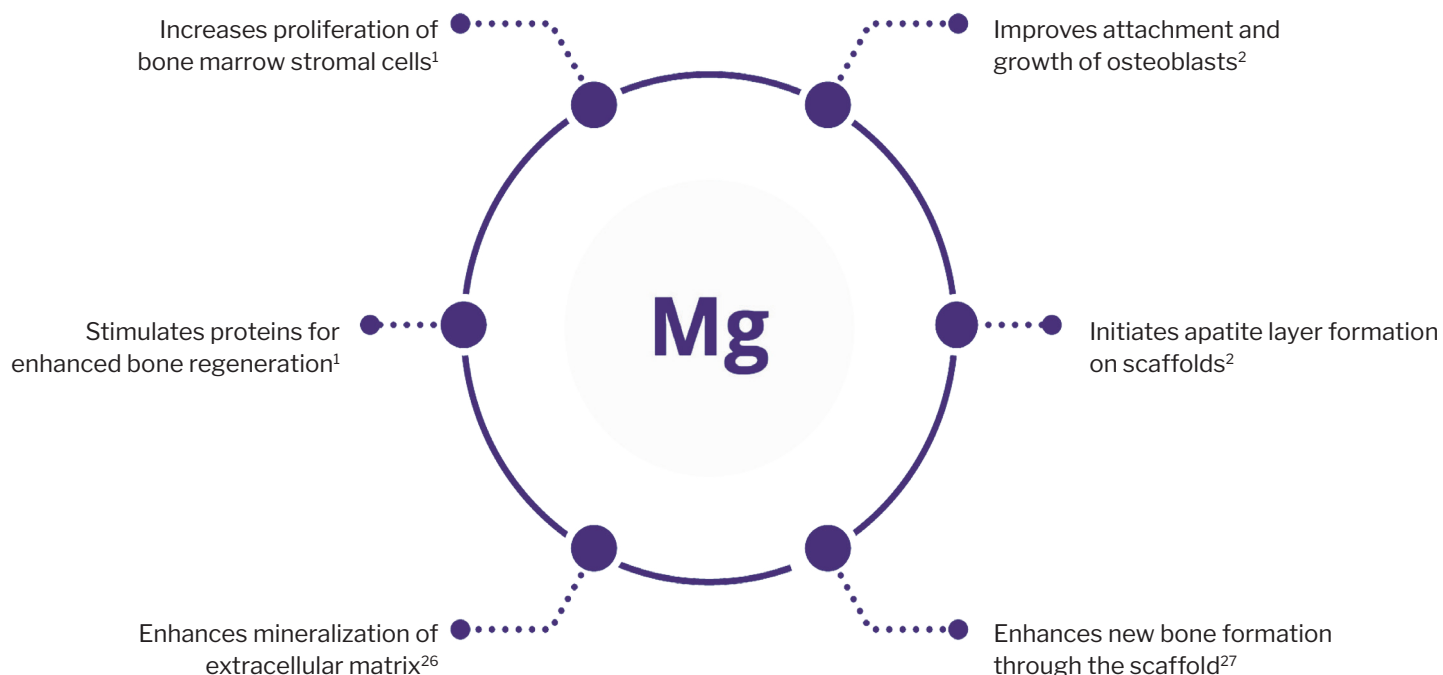
Images courtesy of Dr. Wetzel – University Hospital – Cleveland, OH

## WHY MAGNESIUM?

A natural nutrient essential for building healthy bones, magnesium is an attractive orthopedic alternative because, unlike stainless steel or titanium, it is biodegradable – eliminating the need for an invasive procedure to remove surgical hardware after initial surgery.

- Plays a role in the active transport of calcium and potassium ions across cell membranes<sup>1</sup>
- Contributes to the structural development of bone<sup>1-8</sup>
- Approximately 60% of Mg in the body resides in bones<sup>16</sup>

## WHY MAGNESIUM?



## PRODUCT COMPARISON: MgNum<sup>TM</sup> BVF vs. Competitive Offerings

	MgNum <sup>TM</sup> BVF (Paragon 28 <sup>®</sup> )	Cerament <sup>TM</sup> (Bone Support) <sup>19</sup>	Pro-Dense <sup>TM</sup> (Wright Medical) <sup>20</sup>	HydroSet <sup>TM</sup> (Stryker) <sup>21</sup>	Norian <sup>®</sup> (DePuy Synthes) <sup>22</sup>	AccuFILL <sup>®</sup> (Zimmer Biomet) <sup>23</sup>	Callos <sup>®</sup> Inject (Acumed/Skeletal Kinetics) <sup>24</sup>
Synthetic	✓	✓	✓	✓	✓	✓	✓
Injectable	✓	✓	✓	✓	✓	✓	✓
Moldable	✓	✓	✓	✓	✓	X	✓
Radiopaque	✓	X	✓	✓	✓	✓	✓
OsteoConductive	✓	✓	✓	✓	✓	✓	✓
High Compressive Strength	✓	X	✓	✓	✓	X	✓
Mixing Delivery System Provided	✓	✓	✓	✓	X	✓	✓
Temperature Setting Control	✓	X	X	X	X	✓	✓
Binding Characteristics	✓	X	X	X	X	X	X
Thixotropic Waste Reduction Properties	✓	X	X	X	X	X	X
Enhanced Bone Regeneration	✓	X	X	X	X	X	X

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